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**Dissertation on**

**“ASSESSMENT OF SUICIDALITY IN A GROUP OF HIV  
POSITIVE INDIVIDUALS ATTENDING A TERTIARY  
CARE HOSPITAL PRIOR TO INITIATION OF  
ANTIRETROVIRAL THERAPY”**

**Submitted for M.D., Degree Examination**

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## **CERTIFICATE**

This is to certify that the Dissertation entitled **“ASSESSMENT OF SUICIDALITY IN A GROUP OF HIV POSITIVE INDIVIDUALS ATTENDING A TERTIARY CARE HOSPITAL PRIOR TO INITIATION OF ANTIRETROVIRAL THERAPY”** is a bonafide record of work done by **Dr. B. SENTHIL SAYINATHAN** in the Department Of Psychiatry, Thanjavur Medical College, Thanjavur, during his Post Graduate Course from 2008 to 2011. This is submitted as partial fulfillment for the requirement of **M.D.**, Degree examinations – Branch –XVIII (Psychiatry) to be held in April 2011.

Professor & Head,  
Department of Psychiatry,  
Thanjavur Medical College,  
Thanjavur.

The Dean,  
Thanjavur Medical College,  
Thanjavur.

## **DECLARATION**

I, Dr. B. SENTHIL SAYINATHAN, solemnly declare that the dissertation titled **“ASSESSMENT OF SUICIDALITY IN A GROUP OF HIV POSITIVE INDIVIDUALS ATTENDING A TERTIARY CARE HOSPITAL PRIOR TO INITIATION OF ANTIRETROVIRAL THERAPY”** is a bonafide work done by me at ART centre, Thanjavur Medical College Hospital, Thanjavur, during April 2010 – July 2010.

The dissertation is submitted to **“The Tamilnadu Dr. M.G.R. Medical University, Chennai”**, Tamilnadu as a partial fulfillment for the requirement of **M.D.**, Degree examinations – Branch –XVIII (Psychiatry) to be held in April 2011.

Place: Thanjavur

Date:

**(Dr. B. SENTHIL SAYINATHAN)**

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## **ABBREVIATIONS**

HIV	-	Human Immuno Deficiency Virus
AIDS	-	Acquired Immuno Deficiency Syndrome
ART	-	Anti Retroviral Therapy
HAART	-	Highly Active Anti Retroviral Therapy
IVDU	-	Intra Venous Drug Users
MDD	-	Major Depressive Disorder
PTSD	-	Post Traumatic Stress Disorder
PLWHA	-	Patients Living with HIV & AIDS
HAD	-	HIV Associated Dementia
MCMD	-	Minor Cognitive / Motor Disorder
WHO	-	World Health Organization
NRTI	-	Neucleoside / Neucotide Reverse Transcriptase Inhibitors
NNRTI	-	Non Neucleoside Reverse Transcriptase Inhibitors
DSH	-	Deliberate Self Harm
HAM-D	-	Hamilton Depression Rating Scale
BHS	-	Beck Hopelessness Scale
SSI	-	Scale for Suicidal Ideation
SIS	-	Suicidal Intent Scale

## **INTRODUCTION**

Acquired Immuno Deficiency Syndrome (AIDS) is caused by Human Immuno Deficiency Virus (HIV). Infection with HIV-1 virus type can have a significant impact on immune system as well as on central nervous system. The HIV/AIDS global epidemic has greatly exceeded earlier predictions and it is now clear that it has the potential to affect all countries and all population groups. About 95% of all HIV/AIDS infected people are living in developing countries. These countries have to cope with the huge burden of suffering and death. Globally, nearly 42 million people are now living with HIV/AIDS, about one-third are in between 15&24 years of age, 3 million people are newly infected in every year, young women are especially vulnerable, most people do not know that they are infected. India accounts for 10% of global HIV burden. In India, every day 1500 people are newly infected with HIV (50% below 25 years of age group). Currently India has an estimated prevalence of 0.23 – 0.33%.

Prior to anti retroviral therapy (ART), viable long-term treatment options for HIV infection were unavailable and advanced HIV disease was a terminal illness. Because HIV-positive persons were acutely aware of the progressive nature of their illness, perceived risk for developing AIDS and AIDS-related life events were important determinants of suicide intent. The

burden of coping with insidious onset of functional limitations related to advanced HIV disease and the ever-present threat of death may partially explain the markedly elevated suicide rate among HIV-positive persons during this period. Even though the rates of suicide decrease after the introduction of HAART, still it remains high compared to general population.

Suicide is a significant public health problem worldwide. Suicide has apparently existed for as long as human existence. Based on available data, globally suicide is believed to account for an average of 10–15 deaths for every 100,000 persons each year and for each completed suicide there are up to 20 failed suicide attempts. Over one million people commit suicide every year the world over. Approximately 0.9 % of all deaths are results from suicide. And suicide continues to be one of the three leading causes of death in young people between the ages 15 & 24 years. Suicide is the result of a complex interaction of biological, genetic, psychological, cultural and environmental factors. Studies indicate that the majority (up to two-thirds) of those who commit suicide have had contact with a health-care professional for various physical and emotional complaints in the month before their death. Unfortunately, many suicidal individuals may not spontaneously voice suicidal thoughts or plans of self-harm to their health-care provider, and the majority of those at risk may never be asked about



suicidality during clinical assessments. Suicidal ideation (having thoughts of wanting to die or killing oneself) is more common (up to six times more common than suicidal attempts and up to 100 times more common than completed suicides!).

Mental illness is most commonly encountered in people with HIV / AIDS. Physicians should routinely screen HIV positive patients for psychiatric co-morbidity and explicitly assess suicidal ideation, plan and intent. A mood disorder, especially Depression is a risk factor for suicide. And suicide is the most lethal outcome of untreated Depression. Stress of living with stigmatizing illness further increases suicidal risk. Cognitive-behavioral disengagement leads to increased substance abuse, hopelessness and pessimism which in turn increases the suicidal risk. Suicidal ideation is more likely to occur in those with a history of psychiatric illness and immediately following the diagnosis of HIV .

So assessment and management of mental disorders is an integral part of effective HIV /AIDS intervention programme.

## **AIM OF THE STUDY**

To assess suicidality (suicidal behaviour) in a group of HIV positive patients attending a tertiary care hospital prior to initiation of anti retroviral therapy.

## **OBJECTIVES**

1. To assess the prevalence and severity of suicidality (defined by suicidal ideation or attempts) following the diagnosis of HIV in a sample of HIV positive patients before initiation of anti retroviral therapy.
2. To study the correlation between suicidality and
  - a. Sociodemographic variables
  - b. Psychiatric morbidity
  - c. Hopelessness
  - d. Physical morbidity
  - e. Self perceived stigma

## **HYPOTHESIS**

The following null hypothesis were postulated.

- There is no relationship between suicidality and sociodemographic variables.
- There is no relationship between suicidality and psychiatric morbidity.
- There is no relationship between suicidality and hopelessness.
- There is no relationship between suicidality and physical morbidity.
- There is no relationship between suicidality and self perceived stigma about HIV status.

## **REVIEW OF LITERATURE**

HIV infection and psychiatric disorders have a complex relationship. Being HIV infected could result in psychiatric disorders as psychological consequences of infection or because of the effect of HIV virus on the brain. Disorders may vary from Anxiety disorders, Depression, Mania, Delirium, Dementia, Psychosis & Substance use disorders.

Possibilities of increased prevalence of psychiatric disorders in HIV/AIDS may be due to:

- (i) HIV infection owing to its malignant course and the associated stigma often results in emotional reactions of a serious nature among those infected.
- (ii) The HIV has direct effects on the brain that may lead to neurocognitive disturbances, psychosis or behavioural changes.
- (iii) Opportunistic neurological and systemic infections and their treatment may lead to neuropsychiatric problems.
- (iv) Some of the drugs used in HAART (Highly Active Anti Retroviral Therapy) are known to be associated with psychiatric side effects.

- (v) Persons with severe mental illness are known to be vulnerable to HIV infection and there are special management concerns in this population<sup>(1), (2)</sup>.
- (vi) Substance abuse and HIV are linked in direct ways (intravenous drug use: IVDU) and in indirect ways by their influence on sexual behaviour.
- (vii) Treatment adherence and course of illness have been found to be influenced by emotional factors and substance use.

The Neuropsychological phenomenon occurring during the course of HIV/AIDS can be broadly considered under neurobiological, psychobiological & psychosocial aspects. Research has been carried out on psychological status of individuals with HIV/AIDS at its various stages<sup>(2)</sup>,<sup>(3)</sup> such as at the time of HIV testing (disclosure), asymptomatic stage & symptomatic stage of illness.

A person may react to a HIV positive test finding with a syndrome similar to PTSD<sup>(4)</sup> or may have severe distress on hearing about the HIV positive status. During asymptomatic period Adjustment disorder, Depression, Substance use disorder, Panic attacks and Personality problems are common. During symptomatic period<sup>(5), (6)</sup> (CDC Classification System – Category B,C & WHO Clinical Staging of

HIV/AIDS – 2,3,4) Depression<sup>(7),(8)</sup> and Organic brain syndrome are common problems.

A number of studies have assessed the prevalence of psychiatric disorders <sup>(1-3),(7),(9-14)</sup> in HIV positive individuals. In a study done by Lykestos et al<sup>(10)</sup> on HIV positive patients attending medical outpatient department found that up to 54% had psychiatric disorders. King<sup>(11)</sup> et al noticed that 31% had psychiatric problems among AIDS outpatients. While in Indian scenario, Jacob<sup>(31)</sup> reported 26.1% of the HIV infected individuals having Psychiatric morbidity. Deshpande<sup>(12)</sup> et al reported 34% prevalence of psychiatric morbidity among medical inpatients in an Indian hospital. Falstic<sup>(13)</sup>, Seth<sup>(14)</sup> also reported high prevalence of psychiatric morbidity in their research.

As most available studies had been done on western population, the WHO in 1994 implemented a cross cultural venture called “The WHO neuropsychiatric AIDS study <sup>(15),(16)</sup>”. The overall prevalence of current medical disorders was higher in sero-positive compared to sero-negative patients in two of five centres in the study. But studies by Atkinson et al<sup>(2)</sup> (1988), Williams et al<sup>(17)</sup>(1981) did not find any significance between HIV positive and negative groups with respect to prevalence of psychiatric morbidity.

Factors prone for the development of psychiatric disorders have been studied.

1. HIV related factors – Psychiatric disorders are more likely to occur at two high risk periods i.e., the period immediately within 6 months after disclosure of HIV positive status & at the onset of physical complications of AIDS (Late stage-WHO stage IV of HIV related disease classification<sup>(6)</sup>) {Holt et al<sup>(18)</sup>, Kelly et al<sup>(19)</sup>}
2. Sociodemographic factors – Older individuals may be at higher risk of HIV Dementia and Minor Cognitive/ Motor disorder. Substance users have poor psychological status, coping skills, social & familial problems even prior to acquiring infections<sup>(89)</sup>.
3. Personality factors – Aspects of individual's personality such as sensation seeking, Impulsivity and less effective coping skills leads to high risk sexual behaviour. Some studies show that persons with Antisocial Personality Disorder& Borderline Personality Disorder are at high risk of acquiring HIV infection. (Golding et al<sup>(20)</sup>, Perkin et al<sup>(21)</sup>)
4. Past psychiatric history – Presence of psychiatric morbidity in the past favours emergence of psychiatric problems. Association between previous psychiatric diagnosis and present psychiatric problems in HIV positive patients has been noticed by Catalan et al<sup>(22)</sup>.

5. Social Support – Inadequate social support system like lack of support from family, friends & colleagues, social isolation leads to high prevalence of psychiatric disorders. (Kelly et al<sup>(19)</sup> 1998)
6. Life events – Loss of spouse, survivors guilt, health deterioration, loss of job and financial problems add fuel for the development of psychiatric problems in vulnerable population. (Cohen et al<sup>(23)</sup>, Sherr et al<sup>(24)</sup>, Fishman et al<sup>(25)</sup>).

## **PSYCHIATRIC DISORDERS AND HIV**

Psychiatric co-morbidity in HIV ranges from minor cognitive deficits to frank psychosis. Depression & Anxiety are prevalent diagnosis among those with HIV infection.<sup>(26),(27)</sup>

### ***a) Acute Stress reactions***

As with cancer or other life threatening illness, patients with HIV infection must adapt to set of psychological, social, medical factors as well as threat of death. They are confronted with issues like revealing their homosexuality, drug abuse to family and friends, indulging sex with partners, moving with family and friends and protecting themselves from opportunistic infections (Miller)<sup>(91)</sup>. So it is not surprising that 90% of



individuals with recent diagnosis of HIV have acute stress reaction (WHO 1988).<sup>(29)</sup>

Emotional and behavioral reactions includes anger, guilt, fear, withdrawal, despair, confusion, appetite changes, sleep disturbances, suicidal ideations and hypochondriacal beliefs following the diagnosis of HIV (Miller et al,<sup>(28)</sup> Dilley et al,<sup>(8)</sup> Faulstich et al,<sup>(30)</sup> Jacob et al<sup>(31)</sup>). Acute stress reactions are particularly more common in homosexuals & Intravenous drug abusers (Jacob & Eapen)<sup>(31)</sup>. Management should focus primarily on preventive measures such as pre-test and post-test counselling to reduce such emotional reactions.

#### ***b) Adjustment disorders***

Adjustment disorders with depressed and/ or anxious mood is the commonest diagnosis encountered in HIV/AIDS (Dilley et al<sup>(8)</sup>, Rundell et al<sup>(9)</sup>, Jacob et al<sup>(1)</sup>, Schaerf et al<sup>(32)</sup>), often represent the individuals difficulty in adjusting to illness related events or social stressors (Perry et al 1984)<sup>(7)</sup>. It depends upon the coping skills (Namir et al<sup>(33)</sup>), drug abuse or homosexuality leading to guilt, presence of psychiatric morbidity (Holland<sup>(34)</sup> et al), personality factors and social support system (Zich et al<sup>(35)</sup>).

Behavioural, cognitive, psychotherapeutic interventions and pharmacotherapy for treatment of depression or anxiety symptoms are to be considered in the management at this state.

### ***c) Mood disorders***

#### ***i) Depressive Disorders***

Depressive Disorders are one of the commonest psychiatric disorders in HIV/AIDS patients. Depressive Disorders are twice common than general population. (Atkinson et al,<sup>(2)</sup> William et al<sup>(17)</sup>). Though rates of Depression is similar to sero-negative individuals in the initial part of illness, gradually increases as manifestation of disease sets in.(Lykestos et al<sup>(36)</sup> 1996). However Atkinson <sup>(2)</sup> found no relation between the stage of illness and Depression. According to Brown et al,<sup>(37)</sup> high prevalence rate of Depression (35 – 40% ) reported in India among HIV positive individuals.

10 -20% sero-positive men reported Depression in due course of illness as noted by Catalan et al.,<sup>(22)</sup> Studies from India by Chandra et al<sup>(38)</sup> 1998, reported 40% of sero-positive individuals suffered from Depression. Other Indian studies have found rates ranging from 10 – 40%. (Chandra et al,<sup>(39)</sup> 2002, Krishna et al<sup>(40)</sup>). Hintz<sup>(41)</sup> noted that Depression is much more common in women than men. Perry & Tross <sup>(7)</sup> reported that 17.3% of MDD cases in patients admitted for AIDS. 5 –10% of HIV positive

patients had MDD by Rabkin et al.<sup>(42)</sup> In a meta-analysis by Jeffrey Ciesla et al,<sup>(43)</sup> the frequency of MDD was twice common in sero-positive individuals than sero-negative individuals.

Emotional problems are among the most common symptoms in HIV patients with up to 98.6% prevalence.<sup>(44)</sup> Depression is a prevalent comorbidity in HIV infection as well as a recognized side effect of NRTI, Protease inhibitors and NNRTIs. It may also be the first presenting symptom in an HIV case.<sup>(45)</sup> It is essential to discriminate between normal response to a life threatening illness, clinical manifestation of HIV and Depressive episode while recognizing that all three can coexist. As in other serious medical illness, anhedonia may be the most reliable indicator of severe depression. HIV infected individuals are recognized to be at high risk of suicide in the period immediately after coming to know about sero-positive status, especially if they have a past psychiatric history<sup>(46)</sup>.

Depression may result from

- Psychosocial problems related to illness.
- Human Immuno Deficiency Virus predilection for Limbic areas which control emotions that may lead to mood symptoms.
- Secondary to opportunistic infections or neoplasms.

- Anti neoplastic drugs & Anti retroviral drugs
- Chance association.

It is important that somatic symptoms of depression (fatigue, loss of appetite, loss of weight) may also occur in AIDS stage of HIV infection. So weightage is to be given for cardinal psychological and cognitive symptoms like sad mood, decreased interest or pleasure, worthlessness, hopelessness, guilty feeling and suicidal ideation for diagnosing Depressive Disorders.

## *ii) Mania*

Mania typically occurs as part of Bipolar mood disorders but may occur secondary to a variety of medical (cryptococcal meningitis) or pharmacological causes (Ganciclovir, Zidovudine, Steroids) (Johannessen et al,<sup>(47)</sup> Maxwell et al<sup>(48)</sup>). A few cases of hypomania or mania has also been reported by Sabhesan et al,<sup>(49)</sup> & Venugopal et al.<sup>(50)</sup>

Although Manic episodes can occur early in the infection, it is more common in late phases of the infection often associated with cognitive deficits & can be a presentation of HIV Dementia or associated with psychosis.

## *d) Anxiety disorders*

Anxiety disorders may manifest throughout the course of HIV infections. Studies have reported prevalence rate of 2- 30% depending upon the stage of illness (Jacob et al,<sup>(31)</sup> Perkin DO et al<sup>(90)</sup>). Chandra et al reported 36% anxiety Disorders in sero-positive individuals.<sup>(38)</sup> HIV positive women have had high prevalence of PTSD according to Martinez.<sup>(4)</sup> In PLWHA, Ramasubramaniam et al<sup>(51)</sup> noticed high prevalence of PTSD.

In India, higher rates of Anxiety & Depression have been reported probably due to lack of awareness regarding the disease and inadequate counselling facilities (Madan et al,<sup>(52)</sup> Brown et al<sup>(53)</sup>). High rates also reported by William et al<sup>(17)</sup>, Rundell et al,<sup>(54)</sup> Bing<sup>(95)</sup>, Martinez<sup>(96)</sup> & Kuupman<sup>(97)</sup> in their studies.

#### ***e) Acute psychosis***

Prevalence of Psychosis in HIV/AIDS is between 0.1 – 5% (Harris et al<sup>(55)</sup>), most often found in late stages of HIV infection. The clinical picture is dominated by delusions, hallucinations and thought disorder. Psychotic symptoms can occur as a part of Delirium, Dementia, Mania and Organic brain syndrome. They are more prone for rapid deterioration of medical and cognitive symptoms (Harris<sup>(55)</sup>). Acute Psychosis may occur in the context of cognitive impairment (Rundell<sup>(54)</sup>) or may occur without evidence of cognitive impairment (Miller<sup>(28)</sup>).

Psychotic symptoms seen in HIV infected individuals may be primary or secondary<sup>(56)</sup> . Acute Psychosis in AIDS responds well to neuroleptics but extrapyramidal symptoms are much more common.

#### ***f) Delirium***

Delirium denotes that CNS related problems have begun in HIV infection. Delirium may occur in relation to HIV Dementia (Price <sup>(57)</sup>), or Aseptic meningitis (cryptococcal), or Space occupying lesion of brain (CNS Lymphoma, brain abscess from *Toxoplasma gondii*), or hypoxia from *Pneumocystis carinii* pneumonia, or metabolic causes or medications (mainly tricyclic antidepressants).

Delirium develops over hours to days and has fluctuations in intensity over the course of a day. Complete recovery is often possible if not superimposed on HIV Dementia.

#### ***g) HIV Dementia***

Prevalence of HIV Associated Dementia (HAD) among asymptomatic individuals estimated to be 15 – 30% in western population. (Heaton et al,<sup>(58)</sup> Sathishchandra et al<sup>(59)</sup>). In contrast, Indian studies showed a lower prevalence of 1-2%. (Sathishchandra et al<sup>(59)</sup>). It affects both cortical and subcortical structures especially frontal lobe, caudate nucleus & basal ganglia (Aylward et al,<sup>(60)</sup> Navia et al<sup>(61)</sup>).

Current research indicates that cognitive impairment is uncommon in asymptomatic stage. When present, it is subtle and not associated with social or occupational impairments. (Newman et al<sup>(62)</sup>). 50 – 80% of AIDS patients (WHO stage IV<sup>(6)</sup> of HIV / AIDS classifications) demonstrate neurocognitive deficits (Maj<sup>(16)</sup>). Objective impairments include psychomotor slowing, forgetfulness, decreased attention & concentration, executive skills and difficulties in motor speed. Hallmarks of early stage of Dementia are apathy, lethargy, decreased concentration, social withdrawal, muscular weakness & paralysis of lower limbs.

American Academy of Neurology AIDS Task Force<sup>(92)</sup> introduced the term *HIV -1 associated Minor Cognitive/ Motor disorder* (MCMD) for those who have subtle neurocognitive difficulties, not fulfilling HAD criteria.

#### ***h) Substance use disorder***

HIV and substance abuse particularly alcohol, cannabis, cocaine & heroin are interlinked. Alcohol& cannabis are particularly related to sexual disinhibitions, failure to use condoms & impaired judgement regarding safe sex practices. Risky sexual behaviour is the commonest reason behind HIV transmission in India.

25% of India's HIV positive cases reported from Northeast India though it contributes to only 3% of national population. This is because of

high prevalence of substance abuse in that region. (Mirante et al,<sup>(63)</sup> Desai et al<sup>(64)</sup>). Substance abuse has 2 fold higher risk of contracting HIV (Kumar et al<sup>(65)</sup>).

***i) Other AIDS related psychopathology***

- Personality Disorders – Perkin et al<sup>(21)</sup>
- Delusions – Several authors have described delusions of having contracted AIDS in patients suffering from Psychotic depression, paranoid schizophrenia or Schizoaffective disorders<sup>(66)</sup>
- Factitious AIDS (Miller)<sup>(67)</sup>
- Hypochondriacal syndrome (The worried well syndrome <sup>(28)</sup> )- in which the patients are anxious about contracting the virus, though they are sero-negative & disease free, even after repeated reassurance.

## **HIV AND SUICIDAL BEHAVIOUR**



HIV infection carries enormous emotional upheavals that leads to suicide as a natural concomitant.<sup>(68,93,94)</sup> Suicide, attempted suicide and suicidal ideation are complex issues associated with life threatening conditions like HIV infection (Kelly, 1998<sup>(19)</sup>). According to Linenhen,<sup>(69)</sup> suicidal ideators should not be compared with attempters or completers, as they may belong to distinct but overlapping population. So suicidality is to be considered in three broad headings here –

A.suicidal ideation,

B.suicidal attempts

C.completed suicide.

HIV can be a significant risk factor for suicide. Chronic pain, anxiety and depression should prompt a through suicidal risk assessment. Suicidal attempt is most likely to occur in those with a history of psychiatric illness and in the immediately following the diagnosis of HIV.<sup>(46)</sup>

Some of the psychiatric variables predicting suicidal ideation include concurrent substance abuse, past history of depression and presence of hopelessness. Stigma associated with HIV has been considered as an important variable in predicting suicide.

#### ***A.Suicidal ideation***

Suicidal ideation refers to thoughts, fantasies, ruminations and preoccupations about death, self-harm and self-inflicted death. Greater the magnitude and persistence of the suicidal thoughts, higher the risk for eventual suicide.

In order to determine the nature and potential lethality of the patient's suicidal thoughts, it is necessary to elicit the intensity, frequency, depth, duration and persistence of the suicidal thoughts. Even if the patient initially denies thoughts of death or suicide, the clinician should ask additional questions to find out the risk of suicidal behaviour . Asking patients how they feel about the future or how they have been making or anticipating future plans may provide useful insights. Patients who are considering suicide may be ambivalent or fatalistic about the future, may describe a future devoid of hope, may express despair about the future or may not think about the future at all.

- **Prevalence Rates:**

Most of the studies have focused on people with AIDS (WHO stage IV of HIV/AIDS classification<sup>(6)</sup>) .Rabin et al<sup>(70)</sup>, noted 57% of long term survivors of AIDS had suicidal ideation. However there are few studies that deal with HIV positive patients in initial stages. Kelly suggested that

there is increased risk of suicidal ideation in symptomatic HIV positive men. Sherr et al,<sup>(24)</sup> noticed 31 % prevalence rate of suicidal ideation. Carrico<sup>(71)</sup> reported suicidal ideation in 19% of the sample during the week prior to assessment. Robertson et al,<sup>(72)</sup> found that 2/3<sup>rd</sup> of HIV positive individuals had suicidal ideation at some point of time while 1/3<sup>rd</sup> had current suicidal ideation. Shelton et al,<sup>(73)</sup> noted that 59% of the sample were ever thinking about suicide. Various studies have found significant rates of prevalence of suicidal ideation among individuals with HIV/AIDS.(Judd,<sup>(74)</sup> Kalichman,<sup>(75)</sup> Cooperman,<sup>(76)</sup> Caroline cassel<sup>(77)</sup>)

Among Indian studies, Chandra et al<sup>(38)</sup> reported 20 % of the sample expressed death wishes, 12% reported occasional suicidal ideations and 6% reported persistent suicidal ideations. Another study has found suicidal ideation rates of upto 41%. (Santhosh <sup>(78)</sup>)

- **Risk Factors:**

Certain triggers precipitate suicidal ideation in HIV infected people. These include episodes of mental disorder such as Depression, Anxiety, Psychosis and Delirium. Previous research has suggested that Depressive Disorder is common among cancer patients and HIV infected patients who

expressed suicidal ideation and a desire for hastened death. (Chochinov et al, 1995 <sup>(79)</sup>).

Psychiatric disorders are more likely to occur at two high risk periods i.e., the period immediately within 6 months after disclosure of HIV positive status & at the onset of physical complications of AIDS (Late stage -WHO IV of HIV/AIDS classification) {Holt<sup>(18)</sup>, Kelly<sup>(19)</sup>}.

Psychosocial factors like perceived stigma about the illness, social isolation, poor social support system, substance abuse, past history of Deliberate Self Harm (DSH), deviant personality traits, hopelessness are the risk factors of having suicidal ideation. In a study by Kelly et al<sup>(13)</sup> 1998, the most prevalent psychiatric diagnosis among the HIV positive individuals with suicidal ideation were Major Depressive Disorder (64%), Drug dependence (52%) and Depressive Personality Disorder. Kelly compared HIV positive & HIV negative men and stated that history of alcohol use, Major Depressive Disorder, past history of suicidal attempts, personality disorder have also been associated with increased suicidal risk but he also found that there is no significant association between two groups regarding psychosocial stressors like perceived stigma, social isolation, poor social support.

Rabkin et al <sup>(70)</sup> found that highest association with current suicidal ideation in a sample of HIV positive patients was a past psychiatric history and previous suicidal attempts. Hopelessness appears to be the key factor in those contemplating suicide. (Beck<sup>(30)</sup>)

A recent study on suicidal ideation in Bangalore,<sup>(78)</sup> identified demographic risk factors for suicidal ideation that included female sex, lower education level, lower monthly income level and presence of physical distress. Psychiatric variables significantly associated with suicidal ideation were similar to those found in western studies and include presence of depression, hopelessness and anxiety. An important finding of this study that has implications for policies and training was the finding that health care related stigma was highly correlated with suicidal ideation and its severity.

### ***B. Attempted suicide***

Suicidal intent refers to the patient's expectation and commitment to die by suicide. The strength of the patient's intent to die may be reflected in the patient's subjective belief in the lethality of the chosen method, which may be more relevant than the chosen method's objective lethality. Stronger the intent to die, greater the risk for completed suicide.

- **Prevalence studies**

Studies done on attempted suicide in HIV/AIDS individuals is characterized by methodological variations, leading to difficulty in comparing the results. In spite of the fact that suicide attempts are more common than completed suicide, Research in this area of HIV/AIDS is scarce. In a study on long term AIDS survivors, Rabkin <sup>(70)</sup> found that 2 out of 53 men had an attempt since knowing their diagnosis of AIDS. Rundell<sup>(54)</sup> & Brown <sup>(53)</sup> in their cohort study noticed 40% of men attempted suicide within 3 months of diagnosis of HIV. Cooperman et al <sup>(76)</sup> found that 26% of the women attempted suicide within a month of diagnosing HIV status. Shelton et al <sup>(73)</sup> noticed 50% of those individuals with HIV reported attempting suicide at some point of time.

Chandra et al <sup>(38)</sup> found that, 8% of the sample had made attempts to commit suicide.

- ***Risk factors***

Gala et al <sup>(81)</sup> found that Deliberate Self Harm to be seven times greater in those HIV positive patients with previous psychiatric problems. Catalan et al <sup>(82)</sup> noticed that depression predisposes the HIV positive persons to the risk of suicidal attempts.

Sherr et al <sup>(24)</sup> also reported that suicidal attempts were much more common with the first peak at the time of diagnosis and the second peak at the time of development of AIDS stage of HIV infection. He also reported that almost all suicidal attempts occurred within a year that too within 6 weeks of diagnosis.

### ***C. Completed suicide***

Data collected mainly by retrospective assessment of death certificates & post-mortem findings which may not be the reliable indicators of suicidal intent. Suicide rate for men with AIDS aged between 20 & 55 years was 36 times greater than men without AIDS of the same age group. Suicide rate for men with AIDS aged between 20 & 55 years was 66 times more than that of general population. (Marzuk <sup>(68)</sup>)

Dannerberg <sup>(83)</sup> in a study of death certificates documented 7.4 times higher rate of suicide in persons with AIDS than general population. San Francisco <sup>(84)</sup> study demonstrated that the death due to suicide accounted for 0.8% of overall deaths in AIDS patient.

From the above studies we know that the following factors are associated with increased suicidality in HIV/AIDS patients

- Significant suicidal ideation
- Specific intent or plan
- Loneliness
- Hopelessness
- Poor Social support system
- Perceived self stigma
- Previous suicide attempts
- Poor Coping strategies & Personality factors
- Depression & other mood disorders
- Family history of suicide or mood disorders
- Schizophrenia & other psychotic disorders
- Organic mental syndromes
- Intoxication with alcohol & other substances
- Current Psychosocial stressors & Interpersonal Problems
- Physical Co morbidity



## **MATERIALS AND METHODS**

### **Setting:**

The sample was drawn from ART Centre situated in Thanjavur Medical College Hospital. Patients were referred from general practitioners, nearby general hospitals, primary health centres, other ART centres, Raja Mirasudhar Hospital and Thanjavur Medical College Hospital. This centre provides information and education about HIV and AIDS, giving pre-test counselling, post-test counselling, diagnosing and treating the affected individuals.

### **Design:**

A “Cross sectional study design” was used in this study.

### **Recruitment:**

Consecutive 85 patients found to be positive for their HIV status, registered at ART centre, Thanjavur Medical College Hospital, Thanjavur, from 1.04.2010 to 31.07.2010 who satisfied the inclusion criteria of this study were selected. HIV status was diagnosed as per WHO guidelines.

### **Inclusion criteria:**

1. Age more than 18 years.
2. Confirmation of diagnosis as per WHO guidelines.
3. Awareness of diagnosis (HIV Positivity) for a minimum period of 1 week prior to research interview.
4. Those who were willing for giving consent for this study.

**Exclusion criteria:**

1. Patients with severe mental illness of such severity so as to preclude the interview.
2. Patients with severe physical illness of such severity so as to preclude the interview.
3. Those who were unwilling for giving consent for this study.
4. Patients with HIV/AIDS who were on Anti Retroviral Therapy.

**Data collection**

**Assessment:**

The following were employed to collect the data for this study.

1. A semi structured proforma to collect sociodemographic details and psychiatric history. (Appendix – 1)
2. ICD – 10 clinical and diagnostic criteria.
3. (HAM – D) – Hamilton Rating Scale for Depression – 17 items.  
(Appendix – 2)

4. BHS – Beck Hopelessness Scale (Appendix – 3)
5. SSI – (Beck) Scale for Suicidal Ideation (Appendix – 4)
6. SIS – (Beck) Suicide Intent Scale. (Appendix – 5)

## **1. Semi – structured proforma**

The following informations were collected.

- a. Sociodemographic data – Details about Pre ART No, Time interval between knowledge of HIV status and Assessment, Age, Sex, Religion, Marital status, Education, Occupation, Region, Socio Economic status<sup>(98)</sup> and Social Support were collected.
- b. Clinical characteristics – information regarding substance use, sexual preference, current psychiatric diagnosis, personality trait, suicidality (current and past), past history of psychiatric morbidity, family history of suicide and psychiatric illness were collected.
- c. Medical morbidity – co-existing physical illness included.
- d. Perception of HIV status - a 5 point ***LIKERT SCALE*** was used to assess individual perception of stigmatizing nature of HIV infection.

## **2. ICD – 10 clinical and Diagnostic criteria.**

This was used to diagnose current and past psychiatric morbidity.

**3. HAM-D:** Hamilton first described his Depression Rating Scale in 1960's<sup>(99)</sup>. Its intended use was to quantify the results of interview, and its value depended on the skill of the interviewer in eliciting necessary information. Many versions of HAM-D have been made, but 17 – items scale was used in this study.

Each variable has been given a score of 0-4 and the total score is interpreted as

0 – 7	None / Minimal Depression
8 – 17	Mild Depression
18 – 25	Moderate Depression
26 +	Severe Depression

#### **4. Beck Hopelessness Scale (BHS)**

It was devised by Aaron Beck, Weissman et al (1974). It consists of 20 items of thoughts or feelings about future which the subject rates true or false (self-rating scale). Half the items are keyed true and half false, with a total score of 20 for maximum hopelessness. The severity of hopelessness is reported to have a high degree of correlation with suicidal ideation.

## **5. Beck Scale of Suicidal Ideation (SSI)**

It is a 21-item scale with scores ranging 0-2 on individual items (background factors V-items 20 and 21 are not included in total score). The possible range of scores is between 0 and 38. This is designed to quantify the intensity of current, conscious suicidal ideation by measuring self-destructive thoughts or wishes. It is completed by a clinician based on patient's answers in a semi-structured interview.

The scale is divided into 5 sections.

- a. Characteristics of attitude towards living / dying
- b. Characteristics of suicidal ideation / wish
- c. Characteristics of contemplated attempt.
- d. Actualization of attempt contemplated.
- e. Background factors

## **6. Beck Suicide Intent Scale (SIS)**

Beck, Schuyler and Herman (1974) developed a scale to measure the degree of suicidal intent following attempted suicide. The scale has two sections.

Part I – Includes items 1 to 8

It covers the objective circumstances of the attempt and includes items on the preparation for and manner of execution of attempt, the setting and clues given before hand by the patient that could hamper or facilitate intervention or discovery.

Part II – Includes items 9 to 15

It describes the patient's expectations and feelings at the time of attempt.

The scale includes 15 items each item related on a three point score (0, 1, 2). The total score (0 – 30) is used to assess the intent of suicidal attempt. High scores correspond to high suicidal intent.

Score	Interpretation
15 – 19	Low intent
20 – 28	Medium intent
29 +	High intent

## PROCEDURE

A total of 85 cases were recruited for the study over a period of 4 months from 1-4-2010 to 31-7-2010. Informed consent was obtained from each patient prior to interview. The subjects were assured of confidentiality. The study was approved by Ethical Committee of Thanjavur Medical College.

85 consecutive HIV positive patients registered at ART Centre at Thanjavur Medical College Hospital who fulfill the inclusion criteria of the study were selected.

Every patient underwent a semi-structured clinical interview, and psychiatric morbidity if present was assessed based on ICD – 10 clinical and diagnostic criteria. Other relevant informations were also obtained from their attenders, with patient's consent. Information regarding past history and medical illness was also procured. All the informations collected were then entered into the semi-structured proforma.

Past and current suicidality were assessed through interview and rating scales. Beck Scale for Suicide Ideation measured suicidal ideation during the week preceding interview and Suicide intent for the most recent suicidal attempt was assessed by Beck Suicidal Intent Scale. Current hopelessness and depression were measured by Beck Hopelessness Scale and the Hamilton Depression Rating Scale – 17 items.

## **DATA ANALYSIS**

Descriptive statistics were computed. Bivariate analysis of Pearson's chi-square test was done to find out the differences between categorical independent variables and dependent variables.

Mean of two groups (those with current suicidal ideation and those without current suicidal ideation) were compared by using analysis of variants (ANOVA) test. Data was analysed by using the statistical passage of social science – version 12.

## **RESULTS**



**Sample Description:**

85 HIV positive individuals prior to initiation of anti-retroviral therapy were recruited for the study.

**Sociodemographic distribution:Table : 1**

S.No	Variable	N	%
1.	<b>Age in years [Mean (SD)]</b>	33.76 (7.91)	
2.	<b>Sex</b>		
	Male	48	56.5
	Female	36	42.4
	Transgender	1	1.2
3.	<b>Religion</b>		
	Hindu	77	90.6
	Muslim	3	3.5
	Christian	5	5.9
4.	<b>Marital Status</b>		
	Single	10	11.8
	Married	63	74.1
	Widowed	6	7.1
	Divorced / Separated	6	7.1
5.	<b>Education</b>		
	Illiterate	10	11.8
	Primary	28	32.9
	Middle	18	21.2
	Secondary	13	15.3
	Higher Secondary	6	7.1
	Degree	10	11.8
6.	<b>Occupation</b>		
	Employed	51	60

	Unemployed	34	40
7.	<b>Region</b>		
	Urban	25	29.4
	Rural	60	70.6
8.	<b>Socio economic status</b>		
	Middle	14	16.5
	Lower	71	83.5
9.	<b>Social Support</b>		
	Poor	61	71.8
	Moderate	16	18.8
	Good	8	9.4
10	<b>Time interval</b> between knowledge of HIV status and assessment in months	4.71	

The sample consisted of individuals between minimum of 20 years to maximum of 55 years of age with a mean age of 33.76 years. 48 individuals were male (56.5%), 36 were female (42.4) and 1 was transgender (1.2%).

90.6% of the sample were Hindus. Muslims and Christians constituted 3.5% and 5.9% respectively. Majority of the sample population were married (74.1%). 11.8% of the sample were unmarried or single, 7.1% were divorced or separated and 7.1% were widowed.

32.9% of the sample completed their primary education. The proportion of the sample who completed middle, secondary, higher secondary and degree or above level of education were 21.2%, 15.3%, 7.1% and 11.8% respectively. Illiterate people were 11.8% of the sample.

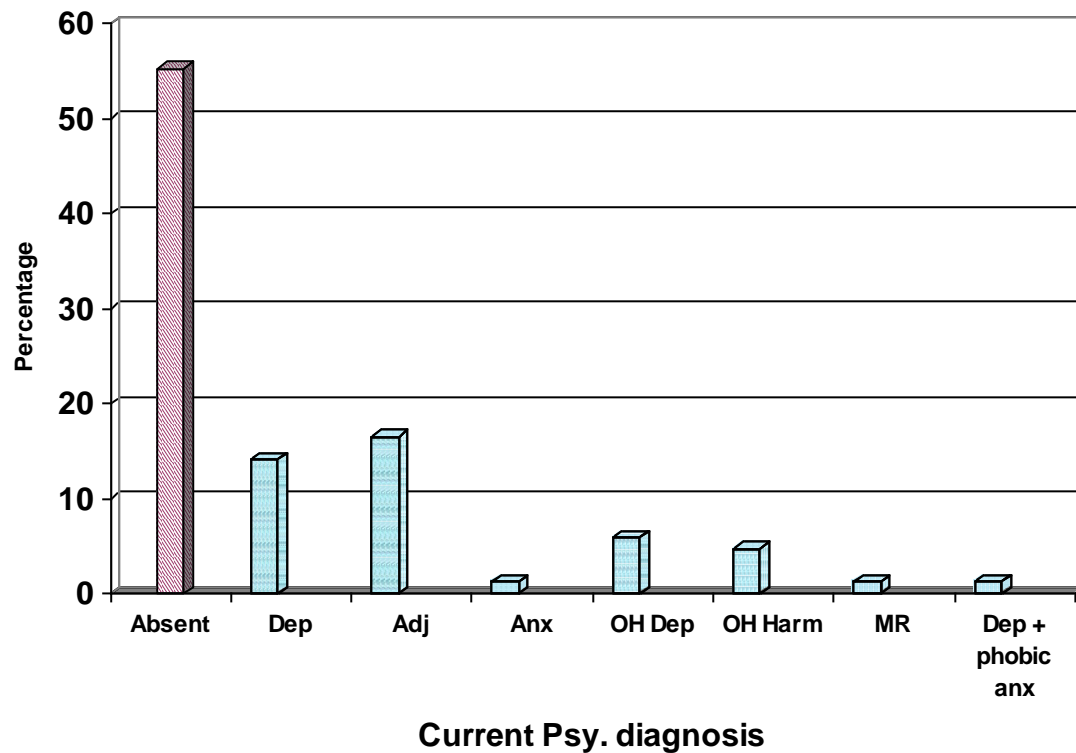
60% of the sample were employed, remaining were unemployed (40%). 70.6% hailed from rural background and 29.4% from urban background. Majority were from low socioeconomic status. 71.8% of the sample had poor social support system (18.8% had moderate support and 9.4% had good support).

Time interval between knowledge of HIV status and assessment range from 1 week to 5 years. The mean duration was 4.7 months.

## **II Psychiatric characteristics: Table : 2**

<b>S.No</b>	<b>Variable</b>	<b>N</b>	<b>%</b>
<b>1.</b>	<b>Current Psychiatric diagnosis</b>		

	1. Absent	47	55.3
	2. Present	38	44.7
	- Depressive disorder	12	14.1
	- Adjustment disorder	14	16.5
	- Anxiety disorder	1	1.2
	- Phobic anxiety disorder + Depression	1	1.2
	- Alcohol dependence	5	5.9
	- Alcohol harmful use	4	4.7
	- Mental retardation	1	1.2
<b>2.</b>	<b>Deviant personality trait</b>		
	1. Absent	83	97.6
	2. Present	2	2.4
	- Borderline personality	1	1.2
	- Anti social personality	1	1.2
<b>3.</b>	<b>Past psychiatric morbidity</b>		
	1. Absent	77	90.6
	2. Present	8	9.4
	- Alcohol dependence	4	4.7
	- Alcohol harmful use	3	3.5
	- Anxiety disorder	1	1.2
<b>4.</b>	<b>Sexual preference</b>		
	1. Heterosexual	81	95.3
	2. Homosexual	1	1.2
	3. Bisexual	3	3.5
<b>5.</b>	<b>Family history of Psychiatric morbidity</b>		
	1. Absent	72	84.7
	2. Present	13	15.3
<b>6.</b>	<b>Family history of suicide</b>		
	1. Absent	71	83.5
	2. Present	14	16.5



Psychiatric diagnosis based on ICD –10 criteria was present in 44.7% of the sample, Adjustment disorder with mixed anxiety and depressive reaction being the commonest (16.5%) followed by Depressive disorder (14.1%). Alcohol dependence and Alcohol harmful use constituted 5.9% and 4.7% respectively. Other diagnoses were mental retardation (1.2%) and Anxiety disorder (1.2%). 1 patient (1.2%) had phobic anxiety disorder (Blood or injury type) with co-morbid Depression.

HAM-D score varies from 0 to 27 with mean (S.D) value of 7.2.

8 out of 85 patients had past history psychiatric morbidity of which 4 patients had Alcohol dependence and 3 patients had Alcohol harmful use and 1 patients had Anxiety disorder.

2 persons (2.4%) had deviant personality trait of which 1 person had Antisocial Personality Disorder (1.2%) and one had Borderline Personality Disorder (1.2%)

95.3% were heterosexual 3.5% were bisexual and 1.2% (1 person) was homosexual in their sexual preference.

Family history of psychiatric morbidity was present in 15.3% of the sample and family history of suicide was present in 16.5% of the sample.

### III Suicidality      Table: 3

S.No	Variable	N	%
1.	Suicidal ideation any time following diagnosis of HIV.		
	Yes	33	38.8
	No	52	61.2
2.	Current suicidal ideation		
	Absent	63	74.1
	Present	22	25.9
3.	Previous attempts after HIV Diagnosis	2	2.4
	HAM – D [Mean (S.D)]	7.2	
	Scale for suicidal Ideation (SSI)	4.11	
	Suicidal Intent Scale (SIS)	15.3	
	BHS	3.95	

Individuals were assessed for current and past suicidality.

**Suicidal ideation:** Out of the 85 HIV positive patients, 33 (38.8%) had suicidal ideation at some point of time following the diagnosis of HIV. 22 persons (25.9%) had current suicidal ideation. The scores for suicidal ideation (SSI) varied from 0 to 30. The mean score was 4.11.

**Suicidal attempts:** 6 out of 85 patients i.e 7.1% had history of suicidal attempts. The score for suicidal intent varied from a minimum of 12 to maximum score of 18 with mean score of 15.3. Among the 6 persons, 2 (2.4%) patients had attempted suicide following notification of HIV status within 6 months of diagnosis.

#### **IV Hopelessness**

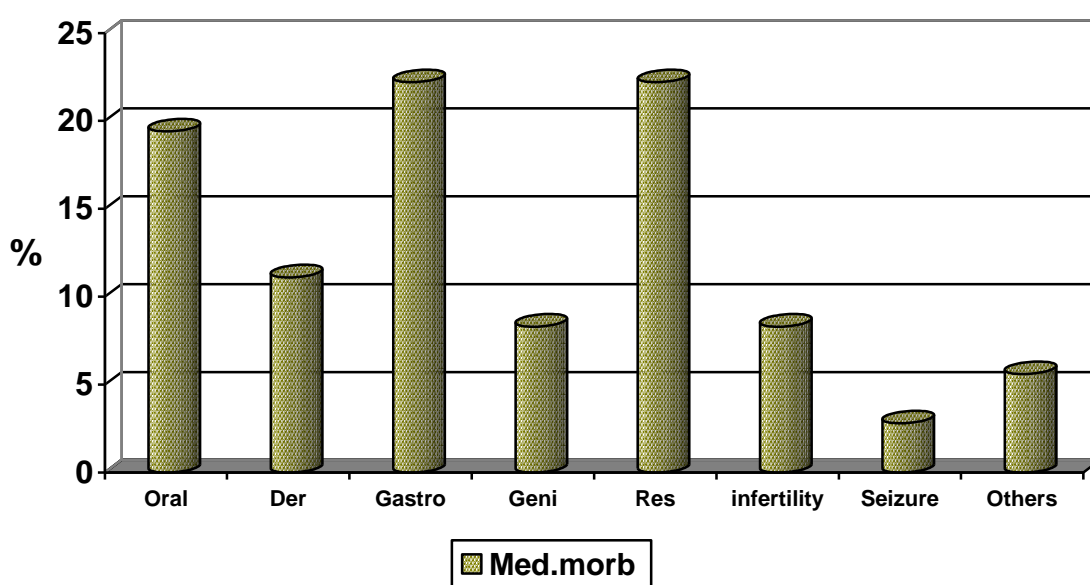
The Beck Hopelessness score varied from 0 to 19 with a mean value of 3.95.

#### **V Medical Morbidity**

36 patients (42.4%) had physical morbidity at the time of assessment. Physical morbidity was present in 36 patients as given below.

#### **Table 4:**

<b>Diagnosis</b>	<b>N = 36</b>	<b>%</b>
a. Oral manifestations	7	19.4
b. Dermatological	4	11.1
c. Gastro intestinal	8	22.2
d. Genital	3	8.3
e. Respiratory	8	22.2
f. Primary infertility	3	8.3
g. Seizure disorder	1	2.8
h. Others	2	5.6



## **VI Perception of HIV stigma**

78.8% of the group felt that HIV was a stigmatizing illness (60% agree and 18.8% strongly agree)

14 patients (16.5%) did not know about stigma associated with HIV illness while 4 patients (4.7%) disagreed.

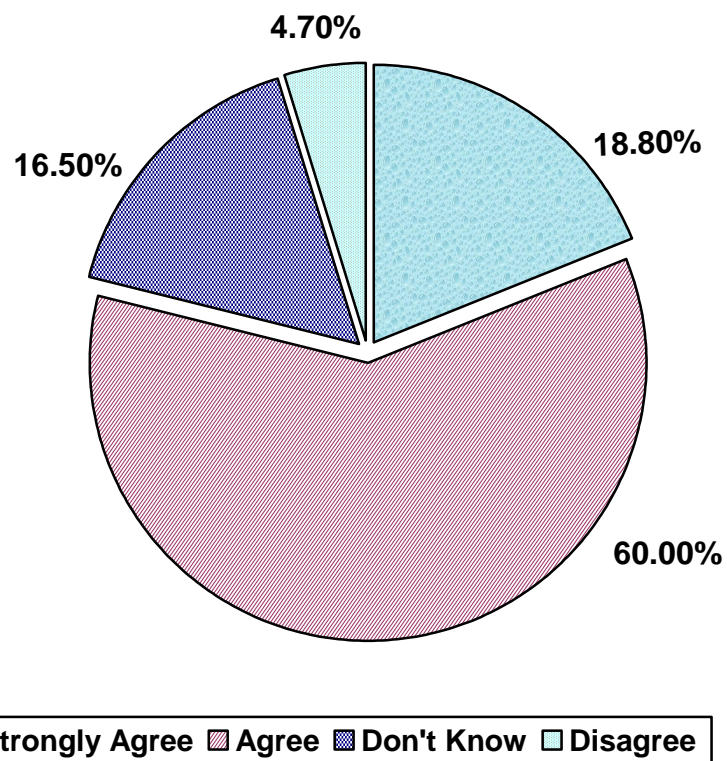
**Table -5**



### PERCEPTION OF HIV STATUS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	STRONGLY AGREE	16	18.8	18.8	18.8
	AGREE	51	60.0	60.0	78.8
	DONT KNOW	14	16.5	16.5	95.3
	DISAGREE	4	4.7	4.7	100.0
	Total	85	100.0	100.0	

### Perception of HIV stigma



### COMPARATIVE DATA

The group was divided into those with current suicidal ideation and those without current suicidal ideation. The two groups were then compared for the following variables.

- a. Sociodemographic variables.
- b. Psychiatric morbidity
- c. Medical morbidity
- d. Perception of stigma
- e. Scores on HAM-D, SSI ,BHS and SIS

#### A. Sociodemographic Variable – Table 6

Variable	Suicidal ideation		“P” value
	No (N = 63)	Yes (N = 22)	
<b>Age</b> in years [Mean (S.D)]	33.46 (8.22)	34.6 (7.06)	0.552
<b>Sex</b>			0.647
Male	34 (54%)	14 (63.6%)	
Female	28 (44.4%)	8 (36.4%)	
Transgender	1 (1.6%)		
<b>Religion</b>			0.915
Hindu	57 (90.5%)	20 (90.9%)	
Muslim	2 (3.2%)	1 (4.5%)	
Christian	4 (6.3%)	1 (4.5%)	
<b>Marital status</b>			0.111
Single	5 (7.9%)	5 (22.7%)	

Married	50 (79.4%)	13 (59.1%)	
Widowed	5 (7.9%)	1 (4.5%)	
Divorced / Separated	3 (4.8%)	3 (13.6%)	
<b>Education</b>			0.514
Illiterate	5 (7.9%)	5 (22.7%)	
Primary	21 (33.3%)	7 (31.8%)	
Middle	15 (23.8%)	3 (13.6%)	
Secondary	10 (15.9%)	3 (13.6%)	
Higher Secondary	4 (6.3%)	2 (9.1%)	
Degree	8 (12.7%)	2 (9.1%)	
<b>Occupation</b>			0.686
Employed	37 (58.7%)	14 (63.6%)	
Unemployed	26 (41.3%)	8 (36.4%)	
<b>Region</b>			0.424
Urban	20 (31.7%)	5 (22.7%)	
Rural	43 (68.3%)	17 (77.3%)	
<b>Socio economic status</b>			0.802
Middle	10 (15.9%)	4 (18.2%)	
Lower	53 (84.1%)	18 (81.8%)	
<b>Social Support</b>			0.210
Poor	42 (66.7%)	19 (86.4%)	
Moderate	14 (22.2%)	2 (9.1%)	
Good	7 (11.1%)	1 (4.5%)	
<b>Time interval between knowledge of HIV status and assessment (in months)</b>	6.06 (14.05)	0.86 (1.22)	0.088

The sociodemographic distribution for the two groups is given in table 6. Both groups were compared regarding sociodemographic data.

*Statistically, there is no relationship between suicidality and sociodemographic variables.*

**B. Psychiatric Characteristics - Table: 7**

Variable	Suicidal ideation		“P” value
	Yes (N = 22)	No (N = 63)	
<b>Current Psychiatric diagnosis</b>			
Absent	4 (18.2%)	43 (68.3%)	0.000
Present	18 (81.8%)	20 (31.7%)	
1. Depressive disorder	10 (55.6%)	2 (10%)	0.000
2. Adjustment disorder	7 (38.9%)	7 (35%)	
3. Anxiety disorder	-	1 (5%)	
4. Phobic anxiety disorder + Depression	1 (5.6%)	-	
5. Alcohol dependence		5 (25%)	
6. Alcohol harmful use		4 (20%)	
7. Mental retardation		1 (5%)	
<b>Deviant Personality trait</b>			
a) Absent	21 (95.5%)	62 (98.4%)	0.431
b) Present	1 (4.5%)	1 (1.6%)	
<b>Sexual preference</b>			
1) Heterosexual	21 (95.5%)	60 (95.2%)	0.804
2) Homosexual	-	1 (1.6%)	
3) Bisexual	1 (4.5%)	2 (3.2%)	
<b>Past Psychiatric morbidity</b>			
a) Absent	21 (95.5%)	56 (88.9%)	0.364
b) Present	1 (4.5%)	7 (11.1%)	

<b>Previous attempts</b>			
Absent	19 (6.4%)	60 (95.2%)	0.162
Present	3 (13.6%)	3 (4.8%)	
<b>Reason for a attempt</b>			
HIV Status	1 (33.3%)	1 (33.3%)	1.000
Others	2 (66.7%)	2 (66.7%)	
<b>Family history of Psychiatric morbidity</b>			
a) Absent	19 (86.4%)	53 (84.1%)	0.802
b) Present	3 (13.6%)	10 (15.9%)	
<b>Family history of suicide</b>			
Absent	17 (77.3%)	54 (85.7%)	0.358
Present	5 (22.7%)	9 (14.3%)	

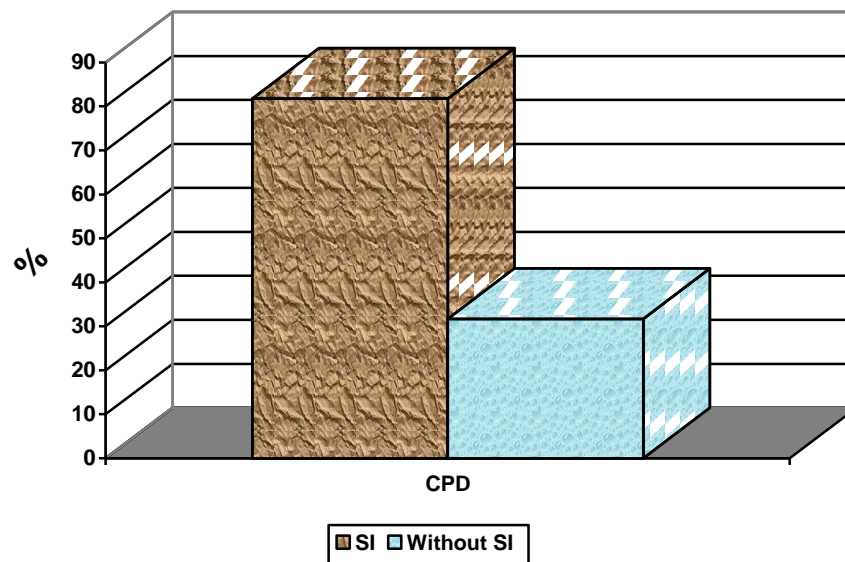


Table 7 shows psychiatric characteristics for the two groups. There was a significant difference between those with and without current

suicidal ideation with regard to presence of a current psychiatric diagnosis (P = 0.000).

From the table, it is evident that *there is a strong association between current suicidality and presence of psychiatric morbidity, especially Depression.*

### C. Medical Morbidity Table : 8

Variable	Suicidal ideation		“P” value
	Yes (N = 22)	No (N = 63)	
Absent	9 (40.9%)	40 (63.5%)	0.065
Present	13 (59.1%)	23 (36.5%)	
Oral	2 (15.4%)	5 (21.7%)	0.842
Dermatological	1 (7.7%)	3 (13%)	
Gastro intestinal	4 (30.8%)	4 (17.4%)	
Genital	2 (15.4%)	1 (4.3%)	
Respiratory	2 (15.4%)	6 (26.1%)	
Primary infertility	1 (7.7%)	2 (8.7%)	
Seizure disorder	0	1 (4.3%)	
Others	1 (7.7%)	1 (4.3%)	

From the table 8 it is evident that *Medical morbidity appeared to have a correlation with suicidality, but it is not significant statistically.*

### E. Perception of Stigma Table : 9

Variable	Suicidal ideation	“P” value
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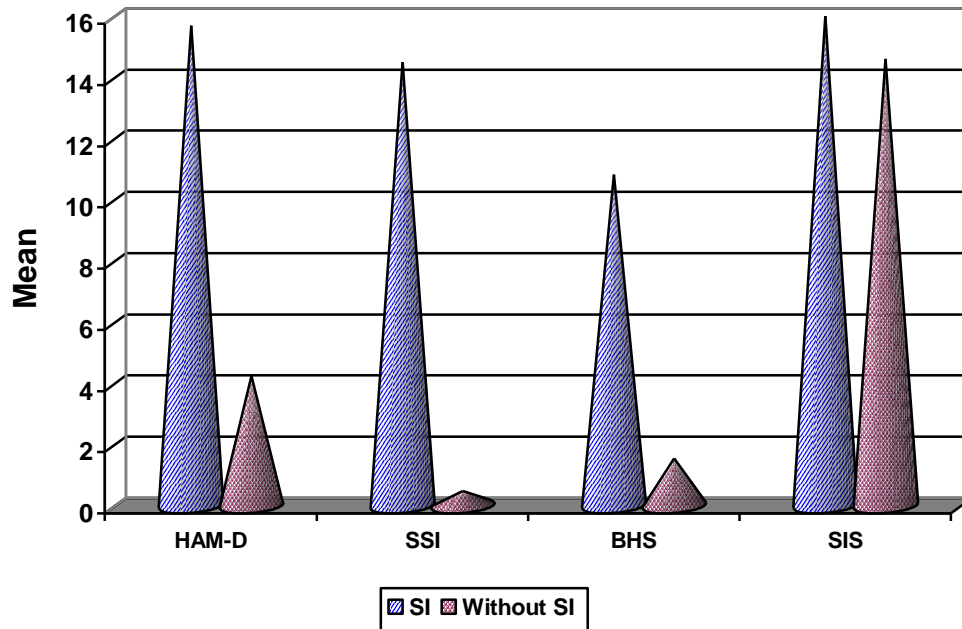
	Yes (N = 22)	No (N = 63)	
Strongly agree	10 (45.5%)	6 (9.5%)	0.001
Agree	12 (54.5%)	39 (61.9%)	
Don't know	0	14 (22.2%)	
Disagree	0	4 (6.3%)	
Strongly disagree	0	0	

The perception of stigma in those with and without suicidal ideation was given in table 9. There was a significant difference between the groups with regard to self-perceived stigma related to a positive HIV status. Almost all the individuals who had current suicidal ideation agreed/strongly agreed to the stigmatizing nature of the illness. *There is strong association noted between current suicidality and self perceived stigma of HIV infection.*

#### **F. Scores on Assessment Scales Table : 10**

Variable	Suicidal ideation Mean (S.D)		“p” value
	Yes (N = 22)	No (N = 63)	
HAM – D	15.68 (7.27)	4.25 (3.8)	0.000
SSI	14.5 (6.8)	0.49 (1.22)	0.000
BHS	10.81 (4.77)	1.55 (2.47)	0.000
SIS	16 (2.0)	14.6(2.3)	0.492

*There is a strong association between current suicidality and higher scores on HAM-D, SSI and BHS.*



**Table -11**

Mean of the two groups (those with current suicidal ideation and without suicidal ideation) were compared by using analysis of variance (ANOVA). From this table it is evident that there is a strong correlation between suicidality and HAM-D, BHS, SSI scores.

			Sum of Squares	df	Mean Square	F	Sig.
TOTAL INTERVAL * CURRENT SUICIDABILITY	Between Groups	(Combined)	440.887	1	440.887	2.980	.088
	Within Groups		12277.962	83	147.927		
	Total		12718.849	84			
AGE * CURRENT SUICIDABILITY	Between Groups	(Combined)	22.552	1	22.552	.357	.552
	Within Groups		5244.742	83	63.190		
	Total		5267.294	84			
HAMILTON DEPRESSION SCALE * CURRENT SUICIDABILITY	Between Groups	(Combined)	2129.479	1	2129.479	87.903	.000
	Within Groups		2010.709	83	24.225		
	Total		4140.188	84			
BECK HOPELESSNESS SCALE * CURRENT SUICIDABILITY	Between Groups	(Combined)	1398.983	1	1398.983	135.202	.000
	Within Groups		858.828	83	10.347		
	Total		2257.812	84			
BECK SCALE FOR SUICIDAL IDEATION * CURRENT SUICIDABILITY	Between Groups	(Combined)	3199.577	1	3199.577	249.299	.000
	Within Groups		1065.246	83	12.834		
	Total		4264.824	84			
BECK SUICIDAL INDENT SCALE * CURRENT SUICIDABILITY	Between Groups	(Combined)	2.667	1	2.667	.571	.492
	Within Groups		18.667	4	4.667		
	Total		21.333	5			

## DISCUSSION



It was a cross sectional study, carried out on HIV positive patients attending ART centre at Thanjavur Medical College Hospital and Suicidality was assessed ( defined by suicidal ideation or attempt ).

## **SOCIODEMOGRAPHIC VARIABLES**

Most of the studies on HIV / AIDS patients have focused on specific groups like Homosexual men <sup>(19,85)</sup>, AIDS patients <sup>(70)</sup>, Female population <sup>(76)</sup>, and Intra venous drug abusers <sup>(63,64)</sup>. This study was done on HIV positive patients (including both males and females) prior to initiation of Anti retroviral therapy, who met the inclusion criteria for the study.

Men were more than women, may be due to men utilizing health services more than women and women were reluctant to give consent than men, 1 patient (1.2%) was transgender in this study. The mean age of the group was 33.76 years, indicating a prevalence of HIV infection among younger age group. In study by Kelly et al <sup>(86)</sup>, the mean age group was 33 years which is in concordance with this study.

Majority were Hindus and married. A proportion of unmarried, widowed, separated or divorced group constituted a considerable number than general population (25.9%)

Most of the patients were from low socio economic status. Majority (>65%) didn't complete their middle school of education. In this group 95.3 % of the population was heterosexual; 1.2% was homosexual and 3.5% was bisexual. But in western countries there was a higher proportion of homosexuals and bisexuals <sup>(87)</sup>.

## **CLINICAL CHARACTERS**

Prevalence of psychiatric morbidity was 55.3% in this study and is similar to that of the study by Lykestos<sup>(10)</sup> et al on HIV positive patients attending medical outpatient department.(54% deducted ).

This is higher than the prevalence rates found in studies on medical inpatients in India by Deshpande<sup>(12)</sup> et al ( 34%) suggesting that HIV illness may be associated with higher psychiatric morbidity than medical illness. Jacob et al <sup>(31)</sup> reported 26.1% prevalence of psychiatric morbidity. Ahuja et al<sup>(88)</sup> also noticed a higher prevalence of psychiatric disorders as compared to the general population. Among patients with psychiatric morbidity the most common diagnosis was Adjustment disorder (16.5%) similar to the studies by Dilley<sup>(8)</sup>, Rundell<sup>(9)</sup>, Schaerf<sup>(32)</sup> Jacob<sup>(31)</sup>

The second most common diagnosis in this study was Depressive Disorder (14.1%), this is similar to the findings by Perry et al<sup>(7)</sup>. The prevalence rate of 5-10% of MDD in HIV positive patients was noticed by

Rabkin et al<sup>(42)</sup>. Rates of depression range from 5 – 25% was also noticed by Chandra et al<sup>(38)</sup>, Perkins et al<sup>(21)</sup>. Chandra<sup>(38)</sup> noticed that 20% expressed death wishes, 12% reported occasional suicidal ideations, and 6% reported persistent suicidal ideations whereas 8 % had made attempts to commit suicide. 10 – 40% of HIV sero-positive individuals in Indian studies had developed Depressive Disorder, noted by Chandra et al<sup>(39)</sup> & Krishna et al<sup>(40)</sup>.

Alcohol dependence was noticed in 4 Patients in this study (Alcohol harmful use was noted in 3 patients) whereas Lykestos et al<sup>(10)</sup> noticed 22% of HIV positive patients attending a medical out patient clinic had Alcohol dependence. Alcohol was the only substance of abuse noted in this study.

One patient (1.2%) in this study had Anxiety disorder, 1.2% had dual diagnosis of Phobic Anxiety disorder (Blood or injury type) with co-morbid Depression, 1.2% of the sample found to be Mentally Retarded. Perkins et al<sup>(15)</sup>, Kelly et al<sup>(86)</sup> found a high prevalence of Personality disorder in their studies on HIV positive patients. In this study 2 patients (2.4%) had Deviant personality trait (1.2% - Borderline Personality Disorder & 1.2% - Antisocial Personality Disorder).

## **PREVALENCE AND SEVERITY OF SUICIDALITY**

Prevalence of current suicidal ideation assessed by clinical interview and Beck Scale for Suicidal Ideation was 25.9% in this study. A total of 38.8% of the sample had Suicidal Ideation at some point of time after diagnosis of HIV. Rabkin et al<sup>(70)</sup> noted in his study that 57% of long term AIDS survivors had suicidal ideation.

The rate of current suicidality (25.9%) is matched with findings by Perry et al<sup>(7)</sup> who found 27% of group of HIV positive individuals had suicidal ideation 1 week after information of HIV status which gradually decreases over time. Carrico et al<sup>(71)</sup> reported, 20% of his sample had thoughts of suicide. 59% of the sample reported ever thinking about suicide in a study by Shelton<sup>(73)</sup>.

7.1% had a past history of suicidal attempts, 2.4% had attempted suicide after diagnosis of HIV infection. This findings correlates with findings of Rabkin et al<sup>(70)</sup> (2 suicide attempts among 53 long term AIDS survivors i.e after the knowledge of HIV).

Kelly et al<sup>(19)</sup> in their cross sectional study found that suicide attempt rates from 20 – 29% in homosexual and bisexual man. This cannot be compared to our study which consisted of both male, female population and majority were heterosexual.

2 out of 85 patients had attempted suicide within six months of the diagnosis of HIV positivity. This finding is in concordance with Rundell et al<sup>(54)</sup> who reported attempted suicide within one year of post-notification period in 66.7% of his sample. In a study by Cooperman<sup>(76)</sup> 26% of women reported attempting suicide within one month of diagnosis.

## **CORRELATES OF SUICIDALITY**

A total of 85 patients were divided into those with and without current suicidal ideation in order to assess the possible correlation with suicidality. No variation between the 2 groups during comparison of sociodemographic variables.

It was found that the risk of suicidal ideation was more common in patients with current psychiatric diagnosis compared to those without current psychiatric diagnosis, the association being strongest for Depressive Disorder (5 times more common).

Chochinor et al<sup>(79)</sup> reported Depressive Disorder to be common in HIV infected persons who expressed suicidal ideation. High correlation detected by Pearson's correlation coefficient between HAM-D, Scale for Suicidal Ideation, Beck Hopelessness Scale and current suicidal ideation ( $P = 0.000$ ). Beck et al<sup>(80)</sup>, Catalan<sup>(22)</sup> reported highest correlation between hopelessness and suicidal ideation.

According to Kelly et al<sup>(19)</sup> the risk of suicidal ideation was nearly 11 times more in individuals who had a hopelessness score > 8, in this study mean score for hopelessness was > 10 in the group with suicidal ideation.

In our study all individuals who had suicidal ideation, agreed / strongly agreed the stigmatizing nature HIV infection. Sherr et al<sup>(24)</sup> and Rundell et al<sup>(9)</sup> carried out studies on social isolation and perception of self on HIV patients, confirmed the stigmatizing nature of illness. No correlation noted between family history of suicide and current suicidal ideation in this study but Kelly et al<sup>(19)</sup> noted strong correlation between suicidal behaviour in the HIV positive patients and past psychiatric history & past or family history of suicidal attempts.

4 out of 6 patients, who attempted suicide, had history of suicide attempts prior to HIV diagnosis. It rises the possibility that suicidality that may be an inherent tendency, which may be uncovered rather than caused by stress.

Time duration after diagnosis did not appear to correlate with suicidal ideation. But Sherr et al<sup>(24)</sup> found bimodal distribution of suicidal behaviour following the diagnosis of HIV.

In our study we have noticed that, suicidal behaviour is an important area to be dealt with in HIV positive individuals. Strong association was found between suicidal behaviour and factors such as current psychiatric diagnosis, especially Depression, hopelessness and self perceived stigmatizing nature of HIV illness.

## **SUMMARY AND CONCLUSION**

The prevalence, severity and correlates of suicidal behaviour among HIV positive patients attending a tertiary care hospital prior to initiation of Antiretroviral therapy were studied by cross sectional study design.

Suicidality was assessed on the dimensions of history, current ideations and behaviour and quantified by using Beck scale for Suicidal Ideation and Beck Suicidal Intent Scale.

To investigate the possible causes for suicidality, psychiatric status was determined by history, semi - structured clinical interview. Depression and hopelessness were quantified on Hamilton Depression Rating Scale and Beck Hopelessness Scale respectively. Self perceived stigma associated with HIV illness was assessed on 5 point LIKERT Scale. Social demographic variables, medical morbidity were also included in this study.

Majority of the sample were young, married adults, heterosexuals and from low socioeconomic status.

44.7% of the sample had psychiatric morbidity at the time of assessment, the most common being Adjustment Disorder (16.5%) followed by Depression (14.1%). Mean score for HAM-D, BHS were 7.2, 3.95 respectively. Nearly 40% had associated medical morbidity and all reported self perceived stigma associated with illness.

Current suicidality was present in 25.9% of the sample. 38.8% of the sample had suicidal ideation at some point following diagnosis of HIV. 7.1% had history of attempted suicide, 4 had (4.7%) attempted suicide even



before notification of HIV status. Suicide attempts following diagnosis of HIV had taken place within 6 months. Mean score for suicidal ideation was 4.11. Mean score for suicidal intent was 15.3.

The sample was divided into two groups based on the presence of current suicidal ideation. Out of the possible causes, being depressed, sense of hopelessness and self perceived stigma were closely associated with suicidality. Sociodemographic variables, medical morbidity did not show any significant association.

This study was limited by its cross sectional design, patients characters, sample size, lack of data regarding coping skills, life events and awareness about HIV illness.

In conclusion patients who are depressed, hopeless and stigmatized by the HIV status are at greater risk of suicidal behaviour. There is high prevalence of suicidality among HIV positive patients. It is important to find out the risky patients and facilitate them for psychiatric treatment.

Remedical measures which could help to reduce this morbidity would include proper diagnosis and treatment of psychiatric disorders, teaching coping skills to alleviate the feelings of hopelessness & measures for reducing the stigmatizing nature of HIV infection should be integrated with HIV / AIDS management.

## **CONCLUSION**

1. There is a strong association between suicidality and presence of Psychiatric morbidity especially Depression.
2. Adjustment Disorder has been the most common Psychiatric diagnosis among HIV positive individuals followed by Depressive Disorder.
3. Suicidal ideation is 5 times more common in patients with current Psychiatric diagnosis comparing to those without current Psychiatric diagnosis.
4. There is a strong correlation between suicidality and presence of hopelessness.

5. Alcohol has been the main substance of abuse among HIV positive individuals in our context.
6. There is no difference between those with suicidal ideation and those without suicidal ideation regarding socioeconomic variables.
7. All the individuals with suicidal ideation agree / strongly agree the stigmatizing nature of HIV illness.
8. There is a strong correlation between suicidality and self perceived stigma about HIV illness.
9. There is no correlation between suicidality and medical morbidity.
10. There is no correlation between suicidality and family history of Psychiatric diagnosis or suicide.
11. There is no correlation between suicidality and past history of Psychiatric diagnosis or suicidal attempt.

## **LIMITATIONS**

1. As the sample was drawn from patients attending a tertiary care hospital, the findings can't be generalized to the community.
2. Casual modelling of suicidality in HIV positive patients could have been assessed if a prospective study design was used. It was not done because of paucity of time.
3. Completed suicides couldn't be assessed, which might have altered the results if included.

4. Other factors like life events, coping skills, awareness about HIV / AIDS, utility of health services were not assessed.
5. Patients with severe mental / physical illness were not included in this study, which might have influenced the results if included.
6. Assessment was done at a single time on HIV positive individuals who gave consent for this study.
7. HIV positive patients prior to initiation of antiretroviral therapy were studied, who were in the earlier stages of the infection. Patients with AIDS stage of HIV infection who were on antiretroviral therapy were excluded from the study which might have influenced the results.
8. The correlation between CD<sub>4</sub> count and suicidality was not assessed.

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## APPENDIX 1

### PROFORMA

Sl.No.

Pre ART No:

Date of assessment:

Date/month of Diagnosis:

Time interval in months(between Knowledge of HIV status & assessment):

#### I) Sociodemographic Data:

- |                                   |               |                     |              |
|-----------------------------------|---------------|---------------------|--------------|
| 1. Age in completed years         |               |                     |              |
| 2. Sex:                           | 1. Male       | 2. Female           | 3.           |
| Transgender                       |               |                     |              |
| 3. Religion                       | 1. Hindu      | 2. Muslim`          | 3. Christian |
| 4.Others                          |               |                     |              |
| 4. Marital status:                | 1.Single      | 2. Married          |              |
|                                   |               | 3. Widowed          |              |
| 4Divorced/Seperated.              |               |                     |              |
| 5. Education:                     | 1. Illiterate | 2. Primary          | 3. Middle    |
|                                   | 4. Secondary  | 5. Higher Secondary | 6.           |
| Degree & above                    |               |                     |              |
| 6. Occupation                     | 1. Employed   | 2. Unemployed       |              |
| 7. Region                         | 1. Urban      | 2. Rural            |              |
| 8. Socioeconomic Status           | 1. Upper      | 2. Middle           | 3. Lower     |
| 9. Social Support                 | 1.Poor        | 2. Moderate         | 3. Good      |
| (Family, friends, support groups) |               |                     |              |

#### II) Substance Use:

- 1.Nil/ Occasional    2. Abuse    3.

Dependence

Type of Substance(s)

\_\_\_\_\_

#### III) Sexual Preference

1. Hetero    2. Homo    3. Bi-Sexual

IV) 1. Current Psychiatric Diagnosis (ICD – 10)

1. Absent

2. Present,

---

2. Deviant Personality type:  
Present, \_\_\_\_\_

1. Absent

2.

3. Current Suicidality

1. Absent

2. Present

4. Scales Used  
Score

a. Hamilton Depression Rating scale (17 item)

\_\_\_\_\_

b. Beck Hopelessness Scale

\_\_\_\_\_

c. Beck Scale for Suicidal Ideation

\_\_\_\_\_

d. Beck Suicidal Intent Scale

\_\_\_\_\_

V) Current Medical Morbidity:  
Present, \_\_\_\_\_

1. Absent

2.

VI) Past History:

1. Psychiatric Morbidity  
Present, \_\_\_\_\_

1. Absent

2.

2. Suicidal Ideation any time following Diagnosis of HIV

1. Yes

2. No

3. Previous Suicidal Attempts

1. Absent

2. Present

Reason for the Attempt : 1. HIV Status

2. Others

VI) Family History

1. Absent                      2.

1. Absent                      2.

HIV/AIDS is a stigmatizing illness

1.Strongly agree      2. Agree      3. Donot know      4. Disagree  
5. Strongly Disagree

## **APPENDIX - 2**

### **HAMILTON DEPRESSION RATING SCALE (HAM-D)**

#### **1. Depressed mood**

Sad, hopeless helpless, worthless

- |   |   |   |
|---|---|---|
| 0 | = | absent  |
| 1 | = | Gloomy attitude, pessimism, hopelessness  |
| 2 | = | Occasional weeping  |
| 3 | = | Frequent weeping  |
| 4 | = | Patient reports virtually only these feeling states in his/her spontaneous verbal and non – verbal communication. |

#### **2. Feelings of Guilt**

- |   |   |   |
|---|---|---|
| 0 | = | Absent  |
| 1 | = | Self reproach, feels he/she has let people down   |
| 2 | = | ideas of guilt's or rumination over past errors or sinful deeds   |
| 3 | = | present illness is punishment   |
| 4 | = | hears accusatory or denunciatory voices and/ or experiences threatening visual hallucinations. Delusions or guilt |

#### **3. Suicide**

- |   |   |   |
|---|---|---|
| 0 | = | Absent  |
| 1 | = | Feels life is not worth living                                    |
| 2 | = | Wishes he/she were dead or any thoughts of possible death to self |
| 3 | = | Suicide, ideas or halfhearted attempt                             |
| 4 | = | Attempts at suicide (any serious attempts rates 4)                |

#### **4. Insomnia Early**

- |   |   |  |
|---|---|--|
| 0 | = | No difficulty falling asleep   |
| 1 | = | Complains of occasional difficulty falling asleep. i.e. more than ½ hour |
| 2 | = | complains nightly difficulty falling asleep.                             |

#### **5. Insomnia Middle**

- |   |   |   |
|---|---|---|
| 0 | = | No difficult  |
| 1 | = | patient complains of being restless and disturbed during the night          |
| 2 | = | waking during the night and getting out of bed rates 2 (except for voiding) |

#### **6. Insomnia Late**

- 0 = No difficult
- 1 = Waking in early hours of the morning but goes back to sleep
- 2 = Unable to fall asleep again if he/she gets out of bed

## 7. Work and Activities

- 0 = No difficult
- 1 = Thoughts and feelings of incapacity related to activates, work and hobbies
- 2 = Loss of interest in activity, hobbies or work either directly reported by patient or indirectly seen listlessness, indecision and vacillation (feels he/she has to push self to work or activities)
- 3 = Decrease in actual time spent in activities or decrease in productivity. In hospital, rate 3 if patient does not spend at least three hours a day in activities (hospital job or hobbies, exclusive of ward chores)
- 4 = Stopped working because of present illness. In hospital, rate 4 if patient engages in no activates except ward chores, or fails to perform ward chores unassisted

## 8. Retardation

Slowness of thought and speech; impaired ability to concentrate; decreased motor activity

- 0 = Normal speech and thought
- 1 = Slight retardation at interview
- 2 = Obvious retardation at interview
- 3 = Interview difficult
- 4 = Interview impossible

## 9. Agitation

- 0 = None
- 1 = Fidgetiness
- 2 = Playing with hands, hair, obvious restlessness
- 3 = moving about, can't sit still
- 4 = hand wringing, nail biting, hair pulling, biting of lips, patient is on the run

## 10. Anxiety Psychic

Demonstrated by:

- Subjective tension and irritability, loss of concentration
- Worrying about minor matters
- Apprehension
- Fears expressed without questioning
- Feeling of panic
- Feeling jumpy

0 = Absent

1 = Mild

2 = Moderate

3 = Severe

4 = Incapacitating

### **11. Anxiety somatic**

- Gastro – intestinal: dry mouth, wind, indigestion, diarrhea, cramps, belching
- Cardio – vascular: Palpitations, headaches
- Respiratory: hyperventilation, sighing
- Urinary frequency
- Sweating
- Giddiness, blurred vision
- Tinnitus

0 = Absent

1 = Mild

2 = Moderate

3 = Severe

4 = incapacitating

### **12. Somatic symptoms: Gastrointestinal**

0 = None

1 = loss of appetite but eating without staff encouragement

2 = difficulty eating without staff urging.

Requests or requires laxatives or medication for G.I. symptoms

### **13. Somatic symptoms: General**



- |   |   |  |
|---|---|--|
| 0 | = | None   |
| 1 | = | Heaviness in limbs, back or head, backaches, headaches, muscle aches, loss of energy, fatigability |
| 2 | = | Any clear – cut symptom rates 2  |

#### **14. Genital Symptoms**

Symptoms such as: Loss of libido/ menstrual disturbances

- |   |   |        |
|---|---|--------|
| 0 | = | Absent |
| 1 | = | Mild   |
| 2 | = | Severe |

#### **15. Hypochondriasis**

- |   |   |  |
|---|---|--|
| 0 | = | Not present                              |
| 1 | = | Self absorption (bodily)                 |
| 2 | = | Pre-occupation with health               |
| 3 | = | Strong conviction of some bodily illness |
| 4 | = | Hypochondriacal delusions                |

#### **16. Loss of weight**

- |   |   |  |
|---|---|--|
| 0 | = | No weight loss                                       |
| 1 | = | Probable weight loss associated with present illness |
| 2 | = | Definite (according to patient) weight loss          |

#### **17. Insight**

- |   |   |   |
|---|---|---|
| 0 | = | Acknowledges being depressed and ill.   |
| 1 | = | Acknowledges illness but attributes cause to bad food, overwork, virus, need for rest, etc. |
| 2 | = | Denies being ill at all   |

### **APPENDIX 3**

#### **BECK HOPELESSNESS SCALE**

**Response: True/False**

**Score: 0 - 1**

#### **ITEM**

1. I look forward to the future with hope and enthusiasm
2. I might as well give up because I can't make things better for myself.
3. When things are going badly, I am helped by knowing they can't stay that way forever.
4. I can't imagine what my life would be like in 10 years.
5. I have enough time to accomplish the things I most want to do.
6. In the future, I expect to succeed in what concerns me most.
7. My future seems dark to me.
8. I expect to get more of the good things in life than the average person.
9. I just don't get the breaks and there's no reason to believe I will in the future.
10. My past experiences have prepared me well for my future.
11. All I can see ahead of me is unpleasantness rather than pleasantness.
12. I don't expect to get what I really want.
13. When I look ahead to the future I expect I will be happier than I am now.
14. Things just don't work out the way I want them to do.
15. I have great faith in the future.
16. I never get what I want so it's foolish to want anything.
17. It is very unlikely that I will get any real satisfaction in the future.
18. The future seems vague and uncertain to me.
19. I can look forward to more good times than bad times.
20. There is no use in really trying to get something I want because, I probably won't get it.

## **APPENDIX 4**

### **BECK SCALE FOR SUICIDE IDEATION (for ideators)**

#### **I) Characteristics Of Attitude Toward Living / Dying**

1. Wish to live
  - i. Moderate to strong
  - ii. Weak
  - iii. none
2. Wish to Die
  - i. None
  - ii. Weak
  - iii. Moderate to strong
3. Reasons for living/dying
  - i. For living outweigh for dying
  - ii. About equal
  - iii. For dying outweigh for living
4. Desire to make active suicide attempt
  - i. None
  - ii. Weak
  - iii. Moderate to strong
5. Passive Suicidal Attempt
  - i. Would leave precautions to save life.
  - ii. Would leave life/death to chance (e.g, carelessly crossing a busy street)
  - iii. Would avoid steps necessary to save or maintain life (e.g, diabetic ceasing to take insulin)

#### **II Characteristics of Suicide Ideation/Wish**

6. Time Dimension: Duration
  - i. Brief, fleeting periods
  - ii. Longer periods
  - iii. Continuous (chronic), or almost continuous
7. Time Dimension: Frequency
  - i. Rare, occasional
  - ii. Intermittent

- iii. Persistent or continuous
- 8. Attitude toward Ideation /Wish
  - i. Rejecting
  - ii. Ambivalent; indifferent
  - iii. Accepting
- 9. Control over Suicidal Action / Acting – out wish
  - i. Has sense of control
  - ii. Unsure of control
  - iii. Has no sense of control
- 10. Deterrents to Active Attempt (e.g., family, religion; possibility of serious injury if unsuccessful; irreversibility)
  - i. would not attempt suicide because of a deterrent
  - ii. Some concern about deterrents
  - iii. Minimal or no concern about deterrents.
- 11. Reason for contemplated attempt
  - i. To manipulate the environment; get attention, revenge
  - ii. Combination of “0” and “2”
  - iii. Escape, surcease, solve problems.

### **III) Characteristics of Contemplated Attempt**

- 12. Method: Specificity/ Planning
  - i. Not considered
  - ii. Considered, but details not worked out
  - iii. Details worked out/well formulated.
- 13. Method: Availability / Opportunity
  - i. Method not available; no opportunity
  - ii. Method would take time/effort; opportunity not readily available
  - iii. Method and opportunity available.
  - iv. Future opportunity or availability of method anticipated.
- 14. Sense of “capability” to carry out attempt
  - i. no courage, too weak, afraid, incompetent
  - ii. Unsure of courage, competence
  - iii. Sure of competence, courage.

15. Expectancy/Anticipation of Actual Attempt

- i. No
- ii. Uncertain, not sure
- iii. Yes

**IV) Actualization of Contemplated Attempt**

16. Actual Preparation

- i. None
- ii. Partial (e.g. starting to collect pills)
- iii. Complete (e.g. had pills, razor, loaded gun)

17. Suicide Note

- i. None
- ii. Started but not completed; only thought about
- iii. completed

18. Final Acts in Anticipation of Death (e.g. insurance, will, gifts)

- i. None
- ii. Thought about or made some arrangements
- iii. Made definite plans or completed arrangements

19. Deception / Concealment of Contemplated Attempt (Refers to communication of ideation to interviewing clinician)

- i. Revealed ideas openly
- ii. Held back on revealing
- iii. Attempted to deceive, conceal, lie

**V) Background Factors**

(Items 20 & 21) are not included in total score)

20. Previous Suicide Attempts

- i. None
- ii. One
- iii. More than one

21. Intent to die associated with last attempt (if N/A enter "8")

- i. Low
- ii. Moderate; ambivalent, unsure
- iii. High

**APPENDIX - 5**  
**SUICIDAL INTENT SCALE**  
**(For Attempters)**

**i. Objective Circumstances Related to Suicide Attempt**

1. Isolation
  0. Somebody present
    1. Somebody nearby, or in visual or vocal contact
    2. No one nearby or no visual or vocal contact
2. Timing
  0. Intervention is probable
  1. Intervention is not likely
  2. Intervention is highly unlikely
3. Precautions against Discovery/Intervention
  0. No precautions
  1. Passive precautions (as avoiding others but doing nothing to prevent their intervention; alone in room with unlocked door)
  2. Action precautions (as locked door)
4. Acting to Get Help During/After Attempt
  0. Notified potential helper regarding attempt
  1. Contacted but did not specifically notify potential helper regarding attempt
  2. Did not contact or notify potential helper
5. Final acts in anticipation of death (e.g., will, gifts, insurance)
  0. None
  1. Thought about or made some arrangements
  2. Made definite plans or completed arrangements
6. Active preparation for attempt
  0. None
  1. Minimal to moderate
  2. Extensive
7. Suicide Note
  0. Absence of note
  1. Note written, but torn up; though about

- 2. Presence of note
- 8. Overt communication of intent before the attempt
  - 0. None
  - 1. Equivocal communication
  - 2. Unequivocal communication

## **II. Self - Report**

- 9. Alleged purpose of attempt
  - 0. To manipulate environment, get attention, revenge
  - 1. Components of “0” and “2”
  - 2. To escape, surcease, solve problems
- 10. Expectations of fatality
  - 0. Thought that death was unlikely
  - 1. Thought that death was possible but not probable
  - 2. Thought that death was probable or certain
- 11. Conception of Method’s Lethality
  - 0. Did less to self than he thought would be lethal
  - 1. Wasn’t sure if what he did would be lethal
  - 2. Equaled or exceeded what he thought would be lethal
- 12. Seriousness of attempt
  - 0. Did not seriously attempt to end life
  - 1. Uncertain about seriousness to end life
  - 2. Seriously attempted to end life
- 13. Attitude toward living/ dying
  - 0. Did not want to die
  - 1. Components of “0” and “2”
  - 2. Wanted to die
- 14. Conception of medical rescuability
  - 0. Thought that death would be unlikely if he received medical attention
  - 1. Was uncertain whether death could be averted by medical attention
  - 2. Was certain of death even if he received medical attention
- 15. Degree of premeditation
  - 0. None; impulsive
  - 1. Suicide contemplated for three hours or less prior to attempt

2. Suicide contemplated for more than three hours prior to attempt

**III. Other aspects (not included in total score)**

16. Reaction to attempt

0. Sorry that he made attempt; feels foolish, ashamed (circle which one)
1. Accepts both attempt and its failure
2. Regrets failure of attempt

17. Visualization of death

0. Life-after-death, reunion with decedents
1. Never – ending sleep, darkness, and of things
2. No conceptions of or thoughts about death

18. Number of previous attempts

0. None
1. One or two
2. Three or more

19. Relationship between alcohol intake and attempt

0. Some alcohol intake prior to but not related to attempt.  
Reportedly not enough to impair judgment, reality testing
1. Enough alcohol intake to impair judgment, reality testing  
and diminish responsibility.
2. Intentional intake of alcohol in order to facilitate implementation of  
attempt.

20. Relationship between Drug intake and attempt (narcotics, hallucinogens, etc.,  
when drug

is not the method used to suicide)

0. Some drug intake prior to but not related and attempt, reportedly  
not enough to impair judgement, reality testing.
1. Enough drug intake to impair judgement, reality  
testing and diminish responsibility.
2. Intentional drug intake in order to facilitate implementation of attempt.



## **CONSENT FORM**

I was well informed and explained of the purpose and nature of the study, undertaken by Post Graduate Student from the Department of Psychiatry, Thanjavur Medical College, Thanjavur. I am heartfully willing to participate in this study. I do hereby give my full consent for the study.

Name of the Patient:

Signature of the Patient:

